

Substitute for forms 1449A/PTO & 1449B/PTO

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FIRST INFORMATION DISCLOSURE STATEMENT BY APPLICANT

ATTORNEY'S DKT NO.

005950-832

APPLICATION NO.

10/621,718

APPLICANT

Robert M. Carlson, et al.

FILING DATE

July 16, 2003

GROUP

2811

U.S. PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
RK	5,019,660		Chapman et al.	05-28-1991
RK	5,053,434		Chapman	10-01-1991
RK	6,287,765	B1	Cubicciotti	09-11-2001
RK	6,510,359	B1	Merkle et al.	01-21-2003
RK	6,531,107	B1	Spencer et al.	03-11-2003

FOREIGN PATENT DOCUMENTS

Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	Translation Yes	No

NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
RK	Z. ASFARI, et al., "Molecular Machines," <i>Journal of Inclusion Phenomena and Macrocyclic Chemistry</i> , 2000, pp. 103-118, Vol. 36, Kluwer Academic Publishers, The Netherlands
RK	C.R. BRUNDLE, et al., "Atomic Force Microscope," <i>Encyclopedia of Materials Characterization</i> , 1992, p. 703, Butterworth-Heinemann, Stoneham, MA, USA
RK	K.E. DREXLER, "Nanoscale Structural Components," <i>Nanosystems: Molecular Machinery, Manufacturing, and Computation</i> , 1992, pp. 253-273, John Wiley & Sons, Inc., New York, NY, USA
RK	K.E. DREXLER, "Mobile Interfaces and Moving Parts," <i>Nanosystems: Molecular Machinery, Manufacturing, and Computation</i> , 1992, pp. 273-319, John Wiley & Sons, Inc., New York, NY, USA
RK	K.E. DREXLER, "Intermediate Subsystems," <i>Nanosystems: Molecular Machinery, Manufacturing, and Computation</i> , 1992, pp. 320-341, John Wiley & Sons, Inc., New York, NY, USA
RK	K. E. DREXLER, "Molecular Nanomachines: Physical Principles and Implementation Strategies," 1994, <i>Annu. Rev. Biophys. Biomol. Struct.</i> , pp. 377-405, Vol. 23, Annual Reviews Inc., USA
RK	A.A. GAKH, et al., "Molecular gearing systems," <i>Chemtech</i> , November 1997, pp. 26-33
RK	M.F. HAWTHORNE, et al., "Building to Order," <i>Chemistry in Britain</i> , April 1996, pp. 32-36
RK	C. JOACHIM, et al., "Single Molecular Rotor at the Nanoscale," <i>Structure and Bonding</i> , 2001, pp. 1-18, Vol. 99, Springer-Verlag Berlin Heidelberg, New York, NY, USA
RK	P. KASZYNSKI, et al., "Toward a Molecular-Size 'Tinkertoy' Construction Set. Preparation of Terminally Functionalized [n]Staffanes from [1.1.1]Propellane," <i>J. Am. Chem. Soc.</i> , 1991, pp. 601-620, Vol. 114
RK	T.R. KELLY, et al., "Rotary Motion in Single-Molecule Machines," <i>Structure and Bonding</i> , 2001, pp. 19-53, Vol. 99, Springer-Verlag Berlin Heidelberg, New York, NY, USA
RK	J. MULLER, et al., "Rigid-Rod Oligo-p-Carboranes for Molecular Tinkertoys. An Inorganic Langmuir-Blodgett Film with a Functionalized Outer Surface," <i>J. Am. Chem. Soc.</i> , 1992, pp. 9721-9722, Vol. 114
RK	E.A. RIETMAN, "4.3.5 Molecular 'Legos' and 'Tinkertoys'," <i>Molecular Engineering of Nanosystems</i> , 2001, pp. 148-149, Springer-Verlag Berlin Heidelberg, New York, NY, USA
RK	P.F.H. SCHWAB, et al., "Molecular Rods. 1. Simple Axial Rods," <i>Chem. Rev.</i> , 1999, pp. 1863-1933, Vol. 99, No. 7
RK	M. SHEN, et al., "Finite T_g Symmetry Models for Diamond: From Adamantane to Superadamantane ($C_{33}H_{36}$)," <i>J. Am. Chem. Soc.</i> , 1992, pp. 497-505, Vol. 114
RK	D. SU, et al., "Molecular tectonics," <i>Supramolecular Chemistry</i> , 1995, pp. 171-178, Vol. 6, Overseas Publishers Association, Amsterdam, The Netherlands

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RK	J. VACEK, et al. "A molecular 'Tinkertoy' construction kit: Computer simulation of molecular propellers," <i>New J. Chem.</i> , 1997, pp. 1259-1268, Vol. 21, No. 12, CNRS-Gauthier-Villars
RK	J. VACEK, et al., "Molecular dynamics of a grid-mounted molecular dipolar rotor in a rotating electric field," <i>PNAS</i> , May 8, 2001, pp. 5481-5486, Vol. 98, No. 10

Examiner Signature	/Robert Kunemund/	Date Considered	06/26/2006
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Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
RK	5,347,063	A	Shen	09-13-1994
RK	2002/0193648	A1	Dahl, et al.	12-19-2002

FOREIGN PATENT DOCUMENTS					
Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	Translation Yes No
RK	WO 01/27028	A1	PCT	04-19-2001	X

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RK	International Search Report from PCT/US03/22628, issued April 5, 2004.
RK	Dagnani, R., "Building from the Bottom Up", <i>C&EN</i> , Washington, pp. 27-32, October 16, 2000.
RK	Dahl, J.E., et al., "Isolation and Structure of Higher Diamondoid, Nanometer-Sized Diamond Molecules", <i>Science</i> 299:96-99 (2003).
RK	Drexler, K.E., "Nanosystems - Molecular Machinery, Manufacturing, and Computation", <i>John Wiley & Sons</i> , pp. 238-248, 258-271, 293-319 and 320-341 (1992).
RK	Gudipati, M.S., et al., "Infrared Spectra of [n]Staffanes", <i>J. Phys. Chem.</i> 96:10165-10176 (1992).
RK	Gust, D., "Molecular Wires and Girders", <i>Nature</i> 372:133-134 (1994).
RK	Ikkala, O., et al., "Functional Materials Based on Self-Assembly of Polymeric Supramolecules", <i>Nature</i> 295:2407-2409 (2002).
RK	Kato, T., "Self-Assembly of Phase-Segregated Liquid Crystal Structures", <i>Science</i> 295:2414-2417 (2002).
RK	Lehn, J.M., "Toward Self-Organization and Complex Matter", <i>Science</i> 295:2400-2402 (2002).
RK	Merkle, R.C., "Molecular Building Blocks and Development Strategies for Molecular Nanotechnology", <i>Nanotechnology</i> 11:89-99 (2000).
RK	Moore, J.S. et al., "Crafting Molecular Based Solids", <i>Chemistry & Industry</i> , pp. 556-560, July 18, 1994.
RK	Reinhoudt, D.N., et al., "Synthesis Beyond the Molecule", <i>Science</i> 295:2403-2406 (2002).
RK	Rietman, E.A., "Molecular Engineering of Nanosystems", <i>Springer-Verlag</i> , New York, pp. 148-149 (2001).
RK	Rouhi, A.M., "Tinkertoy Dreams", <i>C&EN</i> 79(31): 46-49 (2001).
RK	Sauvage, J-P., "Molecular Machines and Motors", <i>Springer-Verlag</i> , New York, pp. 19-52 (2001).
RK	Schultz, W., "Crafting a National Nanotechnology Effort", <i>C&EN</i> pp. 39-42, October 16, 2000.
RK	Service, R.F. et al., "Strength In Numbers", <i>Science</i> 295:2395-2397 (2002).
RK	Srivastava, D., "A Phenomenological Model of the Rotation Dynamics of Carbon Nanotube Gears with Laser Electric Fields", <i>Nanotechnology</i> 8:186-192 (1997).
RK	Whitesides, G.M. et al., "Self-Assembly at All Scales", <i>Science</i> 295:2418-2421 (2002).

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RK	WO 01/27028	A1	PCT	04-19-2001	X

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RK	Dagnanl, R., "Building from the Bottom Up", <i>C&EN</i> , Washington, pp. 27-32, October 16, 2000.
RK	Dahl, J.E., et al., "Isolation and Structure of Higher Diamondoid, Nanometer-Sized Diamond Molecules", <i>Science</i> 299:96-99 (2003).
RK	Drexler, K.E., "Nanosystems - Molecular Machinery, Manufacturing, and Computation", <i>John Wiley & Sons</i> , pp. 238-248, 258-271, 293-319 and 320-341 (1992).
RK	Gudipati, M.S., et al., "Infrared Spectra of [n]Stafanes", <i>J. Phys. Chem.</i> 96:10165-10176 (1992).
RK	Gust, D., "Molecular Wires and Girders", <i>Nature</i> 372:133-134 (1994).
RK	Ikkala, O. et al., "Functional Materials Based on Self-Assembly of Polymeric Supramolecules", <i>Nature</i> 295:2407-2409 (2002).
RK	Kato, T., "Self-Assembly of Phase-Segregated Liquid Crystal Structures", <i>Science</i> 295:2414-2417 (2002).
RK	Lehn, J.M., "Toward Self-Organization and Complex Matter", <i>Science</i> 295:2400-2402 (2002).
RK	Merkle, R.C., "Molecular Building Blocks and Development Strategies for Molecular Nanotechnology", <i>Nanotechnology</i> 11:89-99 (2000).
RK	Moore, J.S. et al., "Crafting Molecular Based Solids", <i>Chemistry & Industry</i> , pp. 556-560, July 18, 1994.
RK	Reinhardt, D.N., et al., "Synthesis Beyond the Molecule", <i>Science</i> 295:2403-2406 (2002).
RK	Rietman, E.A., "Molecular Engineering of Nanosystems", <i>Springer-Verlag</i> , New York, pp. 148-149 (2001).
RK	Rouhi, A.M., "Tinkertoy Dreams", <i>C&EN</i> 79(31): 46-49 (2001).
RK	Sauvage, J-P., "Molecular Machines and Motors", <i>Springer-Verlag</i> , New York, pp. 19-52 (2001).
RK	Schultz, W., "Crafting a National Nanotechnology Effort", <i>C&EN</i> pp. 39-42, October 16, 2000.
RK	Service, R.F. et al., "Strength In Numbers", <i>Science</i> 295:2395-2397 (2002).
RK	Srivastava, D., "A Phenomenological Model of the Rotation Dynamics of Carbon Nanotube Gears with Laser Electric Fields", <i>Nanotechnology</i> 8:186-192 (1997).
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